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APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO	CONFIRMATION NO.
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09/325,026

06/03/1999

YAN ROZENON

AMAT 2922 FI

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12/18/2002

APPLIED MATERIALS, INC.  
2881 SCOTT BLVD. M/S 2061  
SANTA CLARA, CA 95050

EXAMINER
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ALEJANDRO MULERO, LUZ L

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 12/18/2002

24

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/325,026

Applicant(s)

ROZENON ET AL.

Examiner

Luz L. Alejandro

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on 09 September 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) 1,4-15,29-34,41-51,72-77,79 and 80 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1,4-15,29-34,41-51,72-77,79 and 80 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other:

## **DETAILED ACTION**

### ***Claim Objections***

Claim 1 is objected to because of the following informalities: at line 12, before "outlet" the word – fluid – should be inserted for proper grammar. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11-15, 29-34, 41-51, 77, 79-80 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 11, lines 1-2, it is not clear how the first and second plates comprise a portion of the fluid channel when it appears from the specification that the plates have a shape which allows a cooling channel to be formed. Clarification is required.

In claim 29, lines 11-13, it is not clear in the phrase "one or more cooling channels are disposed at least partially in the first member and located between the first member and the second member" how the one or more cooling channels is disposed at least partially in the first member. It appears from the specification and figure 11 that the first member has a shape which allows a cooling channel to be formed. Clarification is required.

In claim 41, lines 6-7, it is not clear in the phrase "the facing plate having at least one cooling channel disposed therein" how the at least one cooling channel is disposed within the facing plate. It appears from the specification and figure 11 that the plates have a shape which allows a cooling channel to be formed. Clarification is required

In claim 42, lines 7-8, it is not clear in the phrase "at least one cooling channel disposed at least partially between the first and second plates" how the at least one cooling channel are disposed at least partially between the first and second plates. It appears from the specification and figure 11 that the plates have a shape which allows a cooling channel to be formed. Clarification is required.

In claim 80, lines 1-2, it is not clear in the phrase "wherein the one or more cooling channels are disposed in both the first member and the second member" how the one or more cooling channels are disposed in both the first and second members. It appears from the specification and figure 11 that the members have a shape which allows a cooling channel to be formed. Clarification is required

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application

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published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or  
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 29-30, 32-33, 41-43, 47-48, 77, 79-80 are rejected under 35

U.S.C. 102(b) as being anticipated by Wang et al., U.S. Patent 5,000,113.

Wang et al. shows the invention as claimed including a processing chamber 12, comprising: an enclosure 13 having a first electrode 16 for supporting a substrate in the enclosure (see col. 7, lines 19-28); and a chamber cover 32 having a second electrode opposed to the first electrode and to which a power source 28 is connected, the second electrode comprising a plate assembly comprising a first member 104 and a second member 105 coupled to one another, the second member having a bottom surface disposed at least partially in the enclosure and the first member having an upper surface connected to a support frame; and one or more channels 106 disposed at least partially in the plate assembly, wherein the one or more channels are disposed at least partially in the first member and located between the first member and the second member; and one or more fluid connectors 98/100/102 fluidly connected to the one or more channels; and a backing plate 80 adjacent a sidewall of the plate assembly opposite the first electrode and comprised of aluminum; and a baffle plate 94. For a complete description of the apparatus see figures 2, 10 and 12, and their descriptions.

With respect to claim 42, note that the above plate assembly will be the claimed facing plate, the first member will be the claimed second plate, and the second member

will be the claimed first plate. Regarding claim 47, note that the reference discloses such limitation in col. 14-line 67 to col. 15-line 4.

Claims 1, 4-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Crawley et al., U.S. Patent 5,871,586.

Crawley et al. shows the invention as claimed including a processing chamber comprising: a chamber body having a substrate support member 2 disposed therein, and a chamber cover comprising: i) a retaining ring 8 having one or more feedthrough channels 28, ii) one or more feedthroughs disposed in the one or more feedthrough channels, and iii) a lid assembly 7 connected to the retaining ring by the one or more feedthroughs (see fig. 2); wherein the lid assembly comprises: a) a first plate 17 and a second plate 19 connected together and defining a fluid channel therebetween, and b) a fluid inlet 27 and a fluid outlet 31 fluidly connected to the fluid channel, wherein the one or more feedthroughs enable fluid flow into and out of the fluid inlet and fluid outlet. For a complete description of the apparatus see figures 2-3 and their descriptions.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 44-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al., U.S. Patent 5,000,113.

With respect to claims 44-46, Wang et al. is applied as above but does not expressly disclose the claimed the configuration of the first and second plates and the pathway, however, such configurations are a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed first and second plates and pathways is significant, In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

Claim 31, 34, 49-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al., U.S. Patent 5,000,113 in view of Degner et al., U.S. Patent 5,074,456.

Wang et al. is applied as above but does not expressly disclose the claimed materials. Degner et al. discloses a similar apparatus in which the plate facing the

workpiece support can be composed of materials such as graphite, polycrystalline silicon, quartz, glassy carbon, single crystal silicon, silicon carbide, alumina, zirconium, titanium oxide (see col. 3-line 65 to col. 4-line20). Therefore, in view of this disclosure it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the plate of the Wang et al. apparatus made of the claimed materials because such materials are suitable and well known for their high resistance to high temperatures and to wear.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Crawley et al., U.S. Patent 5,871,586.

Crawley et al. is applied as above but does not expressly disclose that the passageway surface area comprises between about 30% and about 60% of the surface area of the lid assembly, but it would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize through routine experimentation the apparatus of Crawley et al. as to comprise the claimed passageway surface area in order to optimize the cooling mechanism of the chamber cover.

Claim 72 is rejected under 35 U.S.C. 103(a) as being unpatentable over Crawley et al., U.S. Patent 5,871,586.

Crawley et al. is applied as above but does not expressly disclose the claimed lid assembly materials, but the examiner takes official notice that such materials are



known in the art material for lid assemblies because their high temperature resistance and high wear resistance.

Claim 73-76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crawley et al., U.S. Patent 5,871,586.

With respect to claims 73-76, Wang et al. is applied as above but does not expressly disclose the claimed configuration of the plates and the fluid channel, however, such configurations are a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed plates and fluid channel is significant, In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

### ***Response to Arguments***

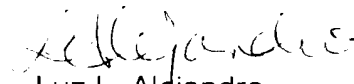
Applicant's arguments with respect to claims 1, 4-15, 29-34, 41-51, 72-77 and 79-80 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luz L. Alejandro whose telephone number is 703-305-4545. The examiner can normally be reached on Monday to Thursday from 7:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory L. Mills can be reached on 703-308-1633. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

  
Luz L. Alejandro  
Patent Examiner  
Art Unit 1763

December 14, 2002